Section 17. Tautog

Introduction

Tautog (*Tautoga onitis*) live primarily in coastal waters from Maine to Virginia but have been caught as far into the Chesapeake Bay as the Chesapeake Bay Bridge. They generally prefer marine waters with vegetative or structural shelter. They are a long-lived species and individuals over 30 years old have been reported from Rhode Island, Connecticut, and Virginia. Tautog spawn in the lower Chesapeake Bay and coastal Virginia waters from April to June. Tautog primarily support a recreational fishery. Coastwide, the recreational fishery has landed an average of nine times as many fish as the commercial fishery.

Chesapeake Bay FMP

The Chesapeake Bay jurisdictions developed a Chesapeake Bay and Atlantic Coast Tautog Fishery Management Plan (FMP) in 1998. The goal of the Chesapeake Bay Tautog FMP is to "enhance and perpetuate tautog stocks and their habitat in the Chesapeake Bay and its tributaries, and throughout its Atlantic coast range, so as to maintain the ecological role of the stock while generating optimum long-term social and economic benefits from their recreational and commercial harvest and utilization over time." The FMP outlines nine objectives for tautog management including: utilization of ASMFC guidelines; improvement of catch and effort data; fair allocation of harvest; water quality and habitat protection and improvement; and promotion of conservation. A synopsis of the 1998 plan can be found on Table 17.1.

Atlantic Coast FMP

The Atlantic States Marine Fisheries Commission (ASMFC), in cooperation with the Mid-Atlantic Fishery Management Council (MAFMC), developed a tautog management plan in 1996. The ASFMC determined that overfishing was occurring, and implemented several management strategies to reduce fishing pressure, these included: 1) a minimum size limit of 14"; 2) require all tautog pots to have escape vents as well as biodegradable hinges and fasteners; 3) reduce F to target levels through a combination of seasons, possession, and/or gear restrictions. Addendum I to the ASMFC plan required an interim fishing mortality target (F=0.24) by April 1, 1998 and required all states to continue to reduce fishing mortality to 0.15 by April 1, 2000. Addendum II lengthened the schedule and required F=0.15 by April 2, 2002. Addendum III was approved in 2002 and addresses a variety of issues, including: 1) the chosen F=M; 2) clarification of the fishing mortality targets in the FMP with respect to individual state management program flexibility; 3) monitoring requirements in the FMP; 4) data requirements to analyze management options by fishing modes within commercial and recreational fisheries. Each state is required to prepare an annual compliance report (Appendix 11).

Stock Status

ASMFC mandates that each state participate in a monitoring program for tautog. States are required to collect and report commercial and recreational catch estimates and 200 age and length samples per state within the range of lengths commonly caught by the fisheries. Some states are also required to monitor young of the year. Length frequency data from 2004 indicates a small population of tautog. Of the 338 fish sampled in 2004, most fish were in the 10-15-inch length groups.

In 2001, ASMFC completed a coastal stock assessment. Natural mortality was estimated at M=0.15 for males and M=0.2 for females. Fishing mortality rates decreased from 1993 to 2000, but the survey found that overfishing was occurring; F=0.41 in 2000, and M=0.15. Another stock assessment is needed but has not been scheduled.

Fishery Statistics

The tautog fishery is predominantly recreational. In 2004, the recreational fishery caught 94% of the total coast-wide harvest. The recreational fishery has been responsible for catching an average of 90% of the total catch since 1981. Maryland and Virginia harvested approximately 2% and 8%, respectively, of the total recreational coastal harvest in 2004. Generally, recreational tautog harvest has been variable. Since the late 1990s, there appears to be a decreasing trend in recreational harvest (Figure 17.1). There also appears to be an increasing trend in commercial harvest (Figure 17.2). Maryland's 2004 commercial harvest was over 10,000 pounds and reflects a much larger catch than previous years. One possible explanation is that commercial fishermen are beginning to target tautog in response to greater restrictions on other commercial fish such as sea bass (Weedon, personal comm.). Commercial regulations for tautog are restrictive in Maryland with a 5-fish/person/day and a closed season in December. Virginia has a closed commercial season from May 1- August 31, with no possession limit. It is important to remember that the commercial harvests in Maryland and Virginia are significantly lower than states in the northern rang. States north of Delaware caught a mean harvest of 53,964 pounds in 2004.

References

Atlantic States Marine Fisheries Commission. 2002. Addendum III to the Fishery Management Plan for Tautog. Fishery Management Report 25c.

Chesapeake Bay Program. 1998. Chesapeake Bay and Atlantic Coast Tautog Fishery Management Plan.

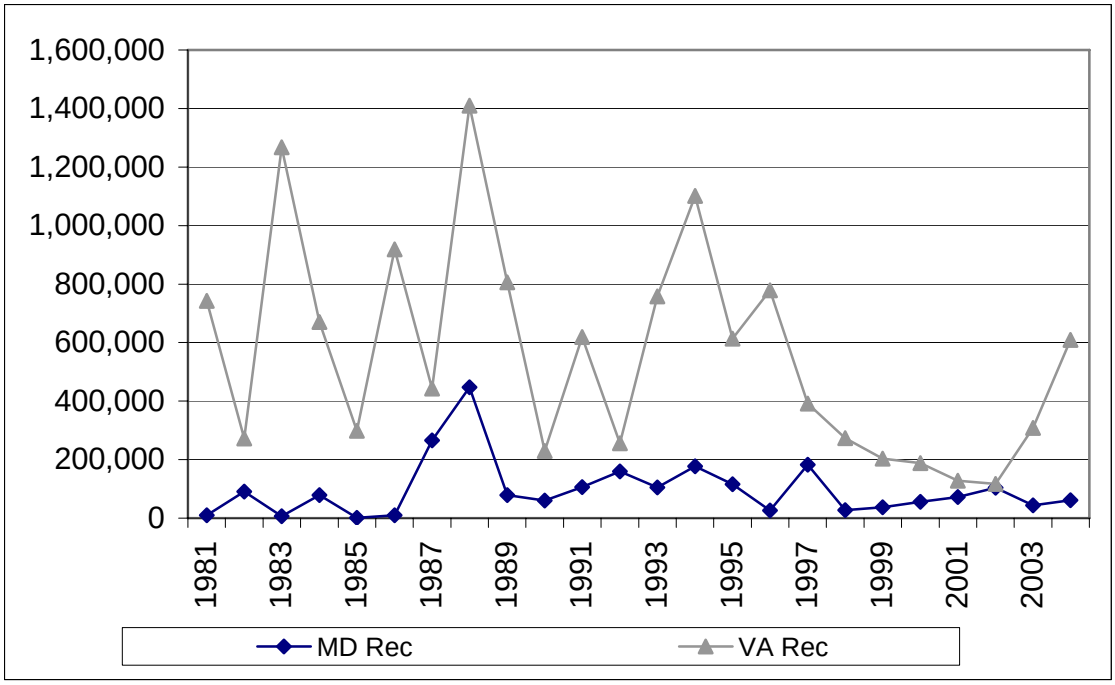

Figure 17.1. Estimated Recreational Harvest of Tautog from Maryland and Virginia, 1981-2004 (MRFSS data)

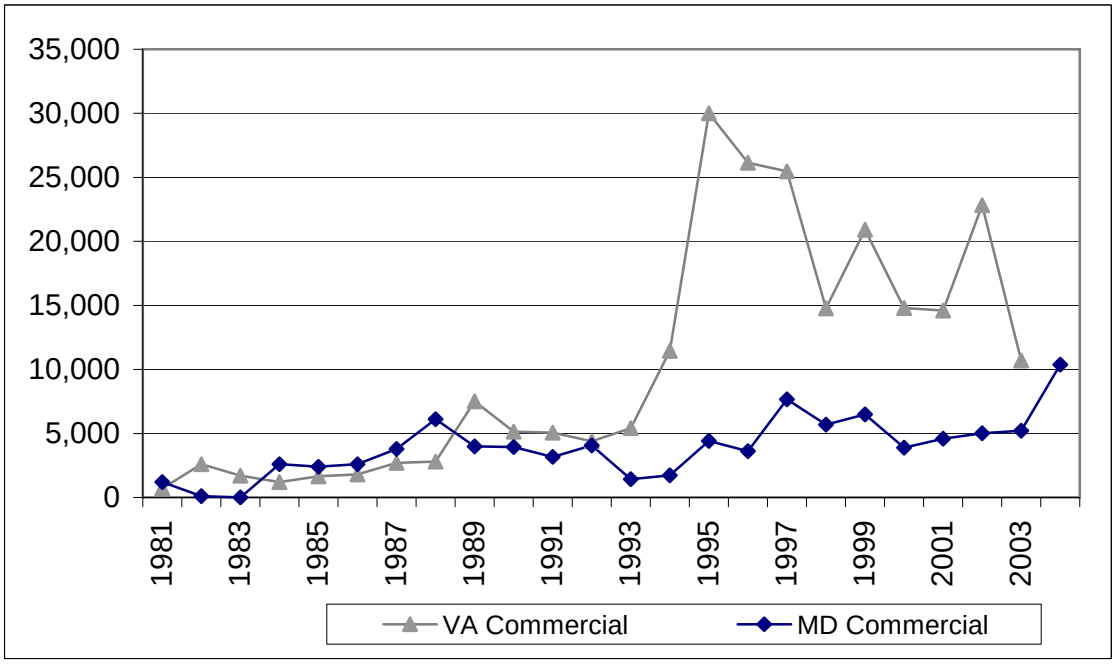

Figure 17.2. Commercial Harvest of Tautog from Maryland and Virginia, 1981-2004 (NMFS data)

Table 17.1 1998 Chesapeake Bay and Atlantic Coast Tautog FMP Implementation (10/05)

Section	Action	Date	Comments
Potential for Overfishing	Action 1.1. Virginia, Maryland and PRFC will implement a minimum size limit of 14" in the recreational and commercial tautog fisheries. Minimum size limits may be changed as more data becomes available on stock condition and biological reference points are re-evaluated.	1998 2003 Continue	The 14" minimum size limit is in effect for MD, VA and PRFC. In addition, MD has a 5 fish limit for the commercial fishery & VA has a closed season from May through August. MD has a 5 fish creel limit and VA has a 7 fish creel limit for the recreational fishery.
	Action 1.2. Viriginia, Maryland and PRFC will reduce fishing mortality to interim and target rates, as defined by ASMFC, through a combination of possession limits, gear, seasons, and/or other restrictions. Target rates may be changed and management measures adjusted as more data becomes available to manage the stock. Due to differences in F between MD and VA, different management strategies may be necessary. The jurisdictions will continue to work towards a unified, Baywide management strategy.	1998 2000 2003 Continue	The most recent coastal stock assessment was completed in 2001 (using data from 1981-2000). Results indicate that F has declined from 0.71 to 0.41. Since the 2000 rate exceeds both the ASMFC target (F=0.15), tautog are considered overfished. Abundance indices indicate a slight increase in biomass & recruitment. Overfishing has been redefined as F=0.29.
	Action 1.3. Virginia and Maryland waters will continue to require degradable fasteners in tautog pots and traps.	1997	No changes.
Stock Assessment and Research Needs	Action 2.1 The management agencies will gather data on age, size and sex distribution to be used as a baseline measurement of a healthy population and will encourage research into the possibility of sex-reversal in the tautog population.	Continuing 1989-1999 Continue	Annual fecundity estimates are much higher than previously thought. All states are required to collect data to support the coastwide stock assessment.
	Action 2..2. Research on migration of tautog between areas is encouraged. Tagging experiments to provide data on tautog migration may be funded from sales of saltwater fishing licenses. The Virginia Game Fish Tagging Program will be continued.	Continuing	A study on the seasonal occurrence of tautog in the lower CB indicates that most fish tagged and released in inshore waters remain inshore for the winter rather than move offshore (Arendt, Lucy and Munroe, 2001)
Habitat Degradation Strategy: Jurisdictions will continue to expand and improve their oyster restoration programs with periodic program evaluations to ensure maximum success.	Action 3.1.1. A) Maryland and Virginia will continue the implementation of the 1994 Oyster FMP which combines the recommendations of both the Virginia Holton Plan and the Maryland Roundtable Action Plan. Strategies in both VA & MD have taken a new focus as the programs intensify efforts to manage around the devastating oyster diseases, Dermo and MSX, currently infecting Chesapeake Bay oysters.	Continue 2003 2004	The 1994 Oyster FMP has been revised. A new Oyster Management Plan was adopted in 2004 and has incorporated concepts from the old FMP and the Aquatic Reef Plan. Sanctuary and special management areas are being protected from harvest and oyster habitat is being restored.

Table 17.1 1998 Chesapeake Bay and Atlantic Coast Tautog FMP Implementation (10/05)

Section	Action	Date	Comments
	Action 3.1.1. B) Maryland and Virginia will continue the implementation of the Aquatic Reef Habitat Plan. "The purpose of the Aquatic Reef Habitat Plan is to guide the development and implementation of a regional program to rebuild and restore reefs as habitat for oysters and other ecologically valuable aquatic species.	Continue 2003 2004	Habitat concerns for oysters and other ecologically valuable species are addressed in the 2004 OMP.
	Action 3.1.2.A) Jurisdictions will continue to maintain, expand, and improve their artificial reef programs. Since 1995, Virginia has developed 3 new reef sites within the Bay and expanded several existing sites, deploying more than 6,000 designed structures (concrete tetrahedrons) and over 5,000 tons of concrete rubble. Maryland has designated 3 sites as oyster sanctuaries where harves is not allowed: Plum Point, lower Severn River and Cambridge. Maryland will also be examining the efficacy of small hill sanctuaries at 3 sites: Tangier, Choptank and Strong Bay (Chester R).	Continue	Building of artificial reefs is not longer a priority program. As materials and sites become available, artificial reef structures may be built. Emphasis has been on rebuilding oyster reefs and oyster habitat. Over 19 areas have been designated as special management areas for oysters in the Chesapeake Bay.
	Action 3.1.2 B) Virginia has recently prohibited the use of all gear except recreational rod and reel, hand-line, spear, or gig on four artificial reefs in state waters. The result of this regulation is similar to the MAFMC/ASMFC Special Management Zones that protect vital tautog habitat.	Continue	
Strategy: Jurisdictions will continue efforts to achieve a net gain in SAVs.	Action 3.2.1.1 A) Protect existing SAV beds from further losses due to increased degradation of water quality, physical damage to the plants, or disruption to the local sedimentary environment as recommended by the Chesapeake Bay Submerged Aquatic Vegetation Policy Implementation Plan.	Continue 2003	A new SAV goal has been adopted by the CBP.
	Action 3.2.1.1 B) Follow the recommendations set forth in the Guidance for Protecting Submerged Aquatic Vegetation in Chesapeake Bay from Physical Disruption with special emphasis on SAV that fall within the salinity range of juvenile tautog.	Continue	Regulations are in place that prohibit dredging through SAV beds.

Table 17.1 1998 Chesapeake Bay and Atlantic Coast Tautog FMP Implementation (10/05)

Section	Action	Date	Comments
	Action 3.2.1.2. Set and achieve regional water and habitat quality objectives that will result in restoration of SAVs through natural revegetation as recommended by the Chesapeake Bay SAV Policy Implementation Plan.	Continue	Water quality criteria have been adopted.
	Action 3.2.1.3. Set regional SAV restoration goals in terms of acreage, abundance, and species diversity considering historical distribution records and estimates of potential habitat as recommended by the Chesapeake Bay SAV Policy Implementation Plan.	Continue	The new SAV goal is 185,000 acres by 2010.
Strategy: Use the SAV Habitat Requirements & Restoration Targets: A Technical Synthesis, as a guide.	Action 3.2.2. When choices must be made in selecting SAV restoration projects, to fund and support under the Chesapeake Bay SAV Policy Implementation Plan, specific attention should be give to action items that lead to the protection and restoration of SAV found within the juvenile tautog habitat range.	Continue	More emphasis is being placed on multispecies benefits when considering restoration projects.
Strategy: Utilize the adopted Chesapeake Bay Wetlands Policy.	Action 3.3. The jurisdictions should strive towards achieving the following, especially in the salinity range of tautog: a) define the resource through inventory and mapping activities; b) protect existing wetlands; c) rehabilitate, restore and create wetlands; d) improve education; and, e) further research.	Continue	GIS mapping activities are underway for habitat resources but not for specific species benefits.
Strategy: Continue to improve water quality.	Action 3.4.1 A) Based on the 1992 baywide nutrient reduction plan reevaluation, the jurisdictions will: 1) expand program efforts to include tributaries; 2) intensify efforts to control nonpoint sources of pollution from agriculture and developed areas; and, 3) improve on current point and nonpoint source control technologies.	Continue	See Chesapeake Bay Program website for updates on nutrient reduction. www.chesapeakebay.net

Table 17.1 1998 Chesapeake Bay and Atlantic Coast Tautog FMP Implementation (10/05)

Section	Action	Date	Comments
	Action 3.4.1 B) Based on the 1994 Chesapeake Bay Program Toxics Reduction Strategy Reevaluation Report, the jurisdictions will emphasize the following 4 areas: 1) polluiont prevention: target regions of concern & areas of emphasis; 2) regulatory program implementation: insure that revised strategies are consistent with and supplement pre-existing regulatory mandates; 3) regional focus: identify and classify regions according to the level of contaminants: and, 4) directed toxics assessment: identify areas of low level contamination, improve tracking and control nonpoint sources.	Continue	See Chesapeake Bay Program website for updates on nutrient reduction. www.chesapeakebay.net
	Action 3.4.1 C) The jurisdictions will continue to develop, implement, and monitor their tributary strategies designed to improve bay water quality.	Continue	Ambient water quality criteria of DO, water clarity, and chlorphyll-a have been adopted for the Chesapeake Bay (April 2003)
Strategy: Utilize the framework developed to address land use and development pressures.	Action 3.4.2. Encourage efficient development patterns which reduce nutrient and sediment lads to the CB and promote responsible land management practices and decisions regarding present and future development.	Continue	